DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-014691
Date Inspected: 03-Jun-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: Bernard Docena, Bnifacio Daquinag Was Present

CWI Present: ☑ Yes ☐ No

Inspected CWI report:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified 4W/5W-A and the following observations were made:

4W/5W-A

Upon the arrival of the QA Inspector, the Smith Emery (SE) Quality Control (QC) Inspector Bonifacio Daquinag and the QA Inspector performed a preliminary inspection of the above identified weld joint. The QA Inspector measured and recorded the temperature of the steel and time to accurately document the thermal expansion and contraction of the top deck plates. The QA Inspector and the QC Inspector began the dimensional verification at 0730 and the temperature of steel was verified with a calibrated temperature gun and measured at approximately 15°C. The QA Inspector and the QC Inspector worked simultaneously to accurately record the planar misalignment of the top deck plates prior to American Bridge/Fluor performing the shielded metal arc welding (SMAW) full length tack weld. After the dimensional measurements were completed the QA Inspector noted, between Y locations 1200mm-27205mm the planar misalignment appeared to be with in the tolerances of AWS D1.5 section 3.3.3. It was observed the unacceptable areas which appeared to exceed that allowed in AWS D1.5 section 3.3.3 was between Y locations 0mm-1200mm and 27205mm-27280mm. The QA Inspector noted additional fitting tasks will be performed in an attempt to correct the unacceptable planar misalignment (see summary of conversations).

The QA Inspector randomly observed the ABF welder Rick Clayborn and helper perform addition fitting tasks of the steel backing bar, in an attempt to close any gaps exceeding 2mm between the steel backing and the bevel. The

QA Inspector randomly observed Mr. Clayborn utilize and rose bud torch and wedges in an attempt to deform the bar to the contour of the transitions in the top deck plate. The QA Inspector noted the ABF welder was successful in the attempt; rather the gap could not be closed to with the maximum allowable 2mm.

The QA Inspector and QC Inspector noted 4 locations where the gap at the steel backing exceeds 2mm. The QA Inspector measured and recorded the areas as follows:
1.) Transition 1920mm-2000mm 2mm-3mm gap (5W) (Length 80mm)
2.) Transition 25260mm-25410mm 2mm-3.5mm gap (4W) (Length 150mm)
3.) 25320mm-25365mm 2mm-2.5mm gap (5W) (Length 45mm)
4.) 24930mm-25040mm 2mm-2.5mm gap (5W) (Length 110mm)

The QA Inspector noted the above identified areas were measured and recorded after no additional fitting tasks could be performed. The WQCM Jim Bowers informed the QA Inspector he would write and submit and internal non conformance report as well as a request to weld over the excessive gaps.

At 1115 the QA Inspector randomly observed the ABF welders identified as Jin Quan Huang, James Zhen, Song Tao Huang and Chun Fai Tsui began performing the SMAW tack welding in the center of the weld joint and moving outward. The QA Inspector noted the SE QC Inspector Bernard Docena was present and monitoring the in process welding. The QA Inspector noted all of the ABF welders appeared to be utilizing 1/8” E7018 low hydrogen electrodes with approximately 130 Amps. The QA Inspector noted the ABF welders were performing the SMAW tack welding for the remainder of the QA Inspectors shift.

Summary of Conversations:
The QA Inspector was asked by the ABF Welding Quality Control Manager (WQCM) Jim Bowers if the center section or the 14mm top deck plate was ready and acceptable to weld. The QA Inspector informed Mr. Bowers he needs to asks the SE QC Inspector Bonifacio Daquinag if he accepted the area in question. The QA Inspector did inform Mr. Bowers between Y locations 1200mm-27205mm the planar misalignment appeared to be in general compliance with the contract requirements.

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The QA Tasks lead Bill Levell informed the QA Inspector verbally at 1545 ABF has approval to perform welding over the excessive gaps at the steel backing. In addition Mr. Levell informed the QA Inspector of 4 ABF welders which are approved to perform welding on the project or a new welding process on the project and the welder are as follows:

Fred Kaddu - 2188, SMAW SPCM - 3/4G

Adam Black - 3491, SMAW SPCM - 3/4G

Ken Chappell - 3833, SAW SPCM

Mike Maday - 3391, SAW SPCM

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer